

Established 1844

"The Best Is Always the Cheapest."

Incorporated 1886

HICKOK
PAPER-RULING MACHINES
AUTOMATIC PAPER FEEDERS
RULING PENS AND INKS

Catalog No. 89

Write for our Bookbinders' Machinery Catalog

THE W. O. HICKOK MFG. CO.
HARRISBURG, PA., U. S. A.

Printed in U. S. A.





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PAPER-RULING MACHINES
AUTOMATIC PAPER FEEDERS
PAPER-RULING PENS AND INKS

Catalog No. 89

THE W. O. HICKOK MANUFACTURING COMPANY
HARRISBURG, PENNSYLVANIA, U. S. A.

OUR WARRANTY—All machinery and tools are thoroughly inspected by us before shipment. Should any material or machinery made by us prove defective or not as ordered, we will, upon due notice, take it back or replace it, if it is sent to us for inspection; but we will not allow any claim for expense incurred in using or changing such machinery or material. Machinery or tools not manufactured by us are not guaranteed by us. *Prices shown in this catalog are subject to change without notice.*

FOREWORD

THIS Company has always been fully alive to the requirements of the paper-ruling trade, and has spared neither pains nor expense to keep pace with them. As a result, we are prepared to furnish Paper-Ruling Machines and Feeders of every description, from those designed to do the simplest feint-line ruling to others designed to rule the most complicated patterns at one feeding.

Recently, many improvements have been added to the various parts comprising a Ruling Machine which greatly add to its efficiency as well as its accuracy; and we are constantly adding devices to facilitate the labor of the ruler, as well as to improve the accuracy of the work that can be done on these machines.

Hickok machinery has always been noted for its high standard of excellence, and at no time in the history of this Company has so great care been exercised in the selection of material, and in the supervision and inspection of the work, as is now being used by our present management.

Hickok Ruling Machines are known throughout the entire civilized world as being the best, most up-to-date and complete manufactured. The efforts of imitators to place upon the market machines somewhat similar have always had the effect of bringing the superior merits of the Hickok Ruling Machine more prominently than ever before the trade.

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It is, and always has been, our aim to make only the best, and we refer you to our customers to say how well we have achieved that end. We do not compete in price with the cheaper grades of Ruling Machines, but can say, and our customers will verify us, that no Ruling Machine manufactured will rule so accurately or so well.

Hickok Ruling Machines will outlast three or four of any other make and will do first-class, high-grade work all the time they are in use. In fact, Hickok Machines fifty years old are doing as good work today as when they were bought, with practically no cost for upkeep or repairs, but of course the style would be obsolete.

Please Give Full Specifications When Ordering as Follows:

Style of Machine, whether feint-line or automatic striker, with number of beams, also whether manifold underlift is desired.

Width between rails, as well as the width of the cloth.

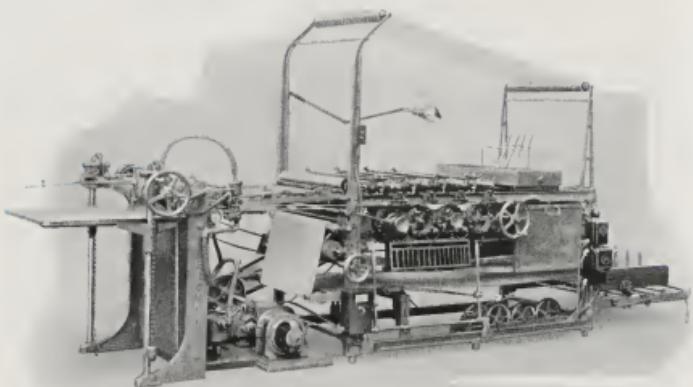
Power.—Please state whether machine is to be equipped with pulley for belt drive, or with our gear speed reducing mechanism for electric motor drive.

Guide Board.—Please specify whether on the side of the machine the ruler stands or on the side opposite the ruler.

Prices on pages 34, 35, and 36.

The W. O. Hickok Manufacturing Company, Harrisburg, Pa., U. S. A.

All-Metal S-R Job-Ruling Machine



View Rulers' Side, New Hickok S-R Job-Ruling Machine

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FOR eighty-nine years W. O. Hickok and his successors, The W. O. Hickok Manufacturing Company, have been manufacturing Paper Ruling Machinery.

We now offer the trade our All-Metal SR Job-Ruling Machine unequalled for speed, accuracy and ease of operation. We believe this machine will far outclass any Ruling Machine ever manufactured by us or any one. It occupies only one-half the floor space of other Ruling Machines; is equipped with four striker beams, the struck work being perfect, and at high speed there is no stagger in the pens. It has an output of from 2,500 to 7,000 sheets per hour regardless of the length of sheet.

The Ruling Machine and Feeder are built as one unit and cannot be sold separately. The Automatic Feeder will feed onion skin or index board and will handle perfectly the largest or the smallest sheet with remarkable accuracy.

This machine is made in two sizes. Our No. 1 will handle a sheet up to 24 inches wide by 28 inches long, and our No. 2 will handle a maximum sheet of 28 inches wide by 30 inches long. Both of these machines will handle a minimum size sheet of 5 inches by 5 inches.

Ninety per cent of all job ruling can be done on this machine. It is equipped with a new style patented guide. The Feeder, Guide, Beams, Change Gears and Receiving Box are readily accessible to the operator on his side of the machine.

Some of the outstanding features of this SR Machine are: All-Metal Frame, floor space is 11 ft. 6 in. by 4 ft., electric sheet dryer automatically controlled, equipped with four beams which occupy less space than three beams on the old style machine. Beams are perfectly balanced and run in ball bearings which makes no preventive of jar-to-beam necessary.

The change gears, twenty-four in number, are on the operator's side and readily accessible. No brushes are necessary as the ink is syphoned from small ink pans directly to the ruling pens by means of zephyrs or

flannels. No attention has to be given to the inking of the pens after the zephyrs are once placed. This inking method accounts for such a high production.

Micrometer screw adjustment for regulating the lift and drop of the pens while machine is in motion.

The new patented guide will register perfectly the smallest or largest sheets.

A variable speed drive permits the machine to be operated at almost any speed. The changes of speed are accomplished while the machine is running by simply turning a hand wheel placed near the operator. This change of speed does not effect the striking in any way.

The Ruling Machine is equipped with $\frac{1}{2}$ -HP motor while the air pump for Feeder has another $\frac{3}{8}$ -HP motor. Motors are push button controlled. An adjustable electric light fixture is part of the equipment. The machine and motors are shipped completely wired and ready to connect to the main power wire.

Beams and clamps are made in one piece and can be adjusted and shifted for loose-leaf work in but a few seconds which is the only adjustment required. Only two screws on these beams make all the necessary adjustments for pen tension and lift.

The gate is of the most advanced design. Its operation insures perfect striking at the highest speed regardless of the size of the sheet. It can be quickly disengaged for faint-lining. Adjustments can be made in all directions.

The above ruling machine and feeder are fully covered by patents in the United States of America, Great Britain and Canada.

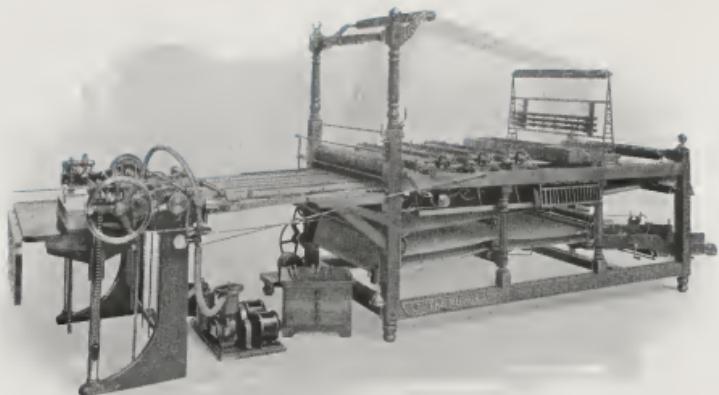
For price see page 34.

Hickok O-A Automatic Striker Ruling Machines

Style 1.—Having one O-A automatic striker-beam. The following equipment is furnished without extra charge: Self-locking O-A angle ball-joint standards; cloth guide on both upper and lower cloths; six No. 11 clamps the width of the cloth; set of 8-inch cams; set of ten change gears, with new style gear-rack; ink pans on each beam; worm-screw adjustment for gate; quick-acting gate; adjustable steel cam-plate on pen-rests; safety device on front cylinder to prevent injury to the hands of the feeder; foot-rests on lower rail; gear speed reducing mechanism, complete with $\frac{1}{4}$ -H. P. motor, 110 or 220 volts direct or alternating current; elevated string-roll and clamp-rack; steel adjustable guide on guide-board; ink-box with drawer; Hickok-Simon patent loose-leaf guide; cam-rack; new style patent crank-handle; one complete set point system pens from 7 to 36 inclusive, with assortment of singles, doubles and triples; one point system pen cabinet; 2 yards rulers' flannel; 2 balls zephyr; and 6 ink-brushes, with assortment ($2\frac{1}{2}$ pounds) ruling-ink powders.

Style 3.—Duplex, having two O-A automatic striker-beams. This machine has the same equipment as the Style 1, but in addition has a second or auxiliary striker-beam, with all the parts that go with this beam to make it complete, which gives it the facility of striking down lines from twice the number of distinct head lines at one feeding and to rule more colors without danger of mixing.

Style 5.—Triple, having three O-A automatic striker-beams. This machine has the same equipment as the Style 1, but has three striker-beams complete instead of one, by means of which down lines can be struck from three distinct head lines or cross lines instead of one. More colors can also be used without danger of mixing.



Style 5.—3-Beam O-A Automatic Ruling Machine, with No. 3 Lay-Boy. Gear Speed Reducing Mechanism and Electric Motor with Hickok Automatic Job Feeder S-F, Attached.

Style 7.—Having one O-A single striker beam and manifold pen-underlifts. This Ruling Machine is the same as the Style 1, except that the manifold pen-underlifts are added to the single O-A striker. This machine will strike down lines from three distinct head lines, and lift on three other distinct foot or bottom lines.

Style 9.—Having two O-A automatic striker-beams and manifold pen-underlifts. This type of machine is the same as the Style 3, except that the manifold pen-underlifts are added. This machine will strike down lines from four distinct head lines and lift on four other distinct foot or bottom cross-lines.

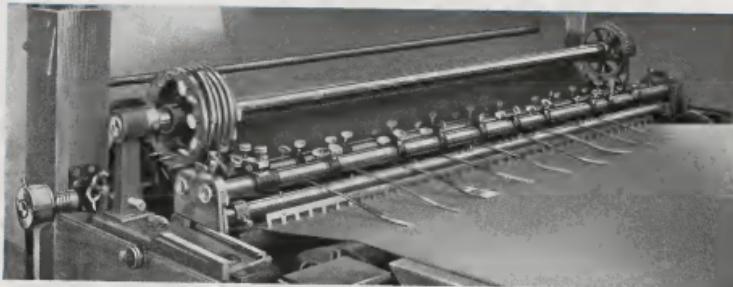
Style 11.—Having three O-A automatic striker-beams and manifold pen-underlifts. The machine is the same as the Style 5, except that the manifold pen-underlifts are added. This machine will strike down lines from five distinct head lines and lift on five other distinct foot or bottom lines.

Floor space, 38-inch machine, $11\frac{1}{2}$ feet by $6\frac{1}{2}$ feet.

Hickok 1-A Ruling Machine

Furnished Without Extra Charge.—One mahogany 1-A faint-line beam complete, with 1-A ball-joint standards, and faint-line pen-rest; six No. 11 pen-clamps the width of the cloth; steel adjustable guide on guide-board; ink-box with drawer; overhead cord-frame and clamp rack; foot-rest on lower rail; cloth guides on both upper and lower cloths; new style patent crank-handle.

Gear speed reducing mechanism or steam fixtures for belt drive are not furnished with this style of machine. If desired, see page 37 for additional price. For faint-lining or striking by hand-power. O-A strikers can be added to these machines at any future time.



Hickok Manifold Pen-Underlifts

Hickok Manifold Pen-Underlifts (TWO SHAFTS)

Used on O-A Striker Machines, Styles 7, 9, or 11

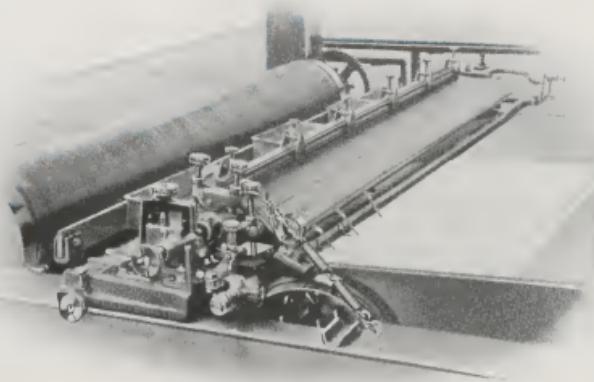
THESE two Underlift Shafts are placed across the machine between the beam and the string cylinder, carrying the holders for the spoons or pen-lifters, and are operated by adjustable cams in double cam-head on a higher shaft also running across the machine, which shaft is driven from striker proper by means of intermediate gears, thereby insuring positive, uniform motion between the striker proper and the underlift attachments. In operation, the cams in the revolving cam-head, striking the Underlift Pen-Rests, cause the Underlift Bars to rock slightly, thus tilting the pen-lifters, which in their turn (extending under pens) raise the points of certain pens just sufficiently to prevent contact, and retain them in this position until the cams, having passed, permit the pens to lower onto the paper again and continue their ruling.

Several down lines may be ruled from separate cross-head lines with the same rapidity and accuracy as in ordinary striking. We commend this style to all establishments having many complicated patterns to rule.

Will strike from two extra head lines in addition to the down lines, struck by the striker or strikers proper.

Prices on page 37.

The W. O. Hickok Manufacturing Company, Harrisburg, Pa., U. S. A.



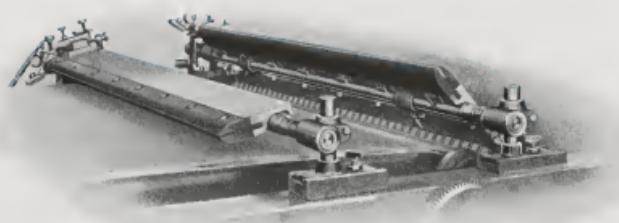
Hickok Single Bar Underlift. Picture shows same attached to first beam.

Hickok Single Bar Underlift

THIS style of underlift, though old in principle, has been recently greatly improved. A square-knurled bar is placed under the pen clamp, as shown on cut, and small brass spring fingers are quickly placed where desired for lifting the pens independently of the operation of the striker-beam. The cam-head has four slots, two slots for cams to operate the striking beam and two slots for the cams to operate the underlift bar. The bearings of the underlift bar are attached to the standards of the striker-beam, so that when it is necessary to move the beam backward or forward, the underlift bar moves with it. A single bar underlift can be placed under each striker-beam if desired, and on struck work is almost equal to an extra beam in each case.

Fully protected by patents.

Prices on page 37.



Metal Loose-Leaf Beams. These beams are furnished without extra charge on all Dual "L" Ruling Machines.

Hickok Metal Loose-Leaf Beam

THE W. O. Hickok Manufacturing Company has recently patented and placed on the market, a metal beam for ruling machines that saves from 25 to 50 per cent time in making ready and setting up the pens. It is this work that has heretofore taken a large percentage of the time necessary to do a ruling job.

Metal Sliding Beam.—The picture shows the design of the metal beam which slides side-wise on a shaft and can be securely locked by two nuts in any position desired. This allows the pens and flannels to be re-positioned in a few seconds, for loose-leaf work. Being of metal it will not warp, thus allowing the pens always to bear on the paper at the same pressure on both sides of the machine.

Adjustable Pen-Rest.—The pen-rest is designed so that by turning a thumb screw the time of the lift or drop of the pens can be regulated while the machine is ruling and in motion, doing away with the old method of stopping the machine and adjusting the cams by hand.

New Style Pen-Clamp.—The pen-clamp has the loose jaw on top instead of bottom. This improvement makes it easier for the ruler to set up and change the position of the pens when necessary. We can supply this style of pen-clamp with counter-sunk nuts on top of clamp as shown in picture or with regular wing-nuts on the bottom. The nuts on top are especially good on the first beam when underlift device is used as there are no nuts on the under side of the clamp. The standards are designed heavier, insuring rigid support for striking. A universal ball bearing connects the beam to the far standard which allows the beam to be moved, without binding, in any direction. Beam to hold old style pen-clamp can be furnished if desired and so ordered.

How to Order.—In ordering for old machines already in service give serial number of ruling machine which is stamped on the name plate and the width measured between the side rails.

Fully covered by patents.—*Price on page 38.*

The Hickok Gear Speed Reducing Mechanism

For Hickok Ruling Machines

THE illustration shows our Gear Speed Reducing Mechanism attached to an O-A Ruling Machine of our manufacture. This mechanism is so constructed that eleven changes of gear speed can be obtained, ranging from twenty to eighty revolutions per minute, by changing the gears on the lower stud. All change gears that fit on the change-gear stud for gate also fit on lower stud. This mechanism does away with all belts, and is small and compact, occupying little space.



Hickok Gear Speed Reducing Mechanism

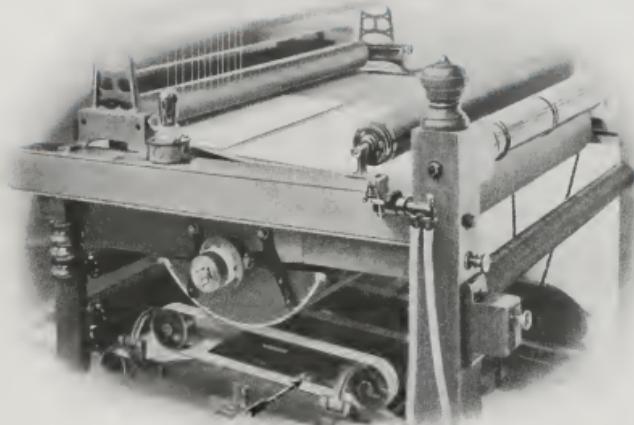
After a great number of years' experience, we have found this mechanism a satisfactory and positive method of reducing the high speed of the motor to the relatively low speed at which the ruling machines should run, namely, twenty to eighty revolutions per minute.

This mechanism is easily attached to any of our machines, as the gears are fastened to one cast-iron plate which fits on the rail, as shown in cut.

In ordering, always give the voltage if direct, and, if alternating, the voltage, cycles, and phase of the current used in your shop.

If the mechanism is ordered without the motor, always give the number of revolutions per minute, size of driving shaft of motor, whether same is key-wayed or set-screwed, or both, and, if key-wayed, the size of the key-way, so that the proper sized non-metallic pinion can be sent; also the distance from center of driving shaft to floor line. Weight, boxed, 250 pounds.

Prices on page 37.



Hickok Electric Sheet Dryer and Counter

Hickok Air Sheet Counter

THIS counter is most efficient and accurate. It will count sheets of paper or cardboard and count only the perfect sheets that are received into the lay-boy. As the counter is actuated by the sheet itself, it will not count when machine is running idle nor count the imperfect sheets which are removed by the operator before they arrive at the lay-boy.

The sheet passing into the lay-boy closes an orifice (an arrow on the picture points to the orifice) thus operating the counting device. The counter is operated on the vacuum principle.

There is nothing to get out of order and sheets can be counted at any speed.

It is not necessary to set for different size sheets or different thicknesses of paper or cardboard.

These counters are also supplied for Printing Presses, Folders, Perforators or any machine on which paper or cardboard is operated. Fully covered by patents.

For price see page 38.

Hickok Electric Sheet Dryer For Attachment to Hickok Ruling Machine

See page 17 for picture.

THIS sheet dryer is made of polished, chromium plated copper sheet and designed so that the heat is reflected on the sheets of paper passing through the ruling machine. It is so designed that when the operator stops the machine, by means of the shifter lever, it turns off the electric current, thus preventing the cloth from being scorched. As an additional precaution, it is equipped with a red pilot light so that the attention of the operator or night watchman will be attracted if the current is on. Either one-third, two-thirds or the whole heater can be heated as desired depending on the width of the sheet being ruled.

Current used is from $5\frac{1}{2}$ to $10\frac{1}{2}$ amperes at 220 volts.

Hickok Gas Sheet Dryer

THIS dryer is so constructed that the moment the ruling machine is stopped, either by means of the clutch or motor, the gas supply is automatically shut off. The dryer is very efficient and inexpensive to operate. The price is the same as the electric dryer.

A speed of 25 up to 75 per cent greater can be maintained when dryer is used.

When ordering, please give serial number of the Ruling Machine, which is stamped on the name plate, and data of your electric current.

For prices see page 39.

The Hickok Dual "L" Ruling Machine *For the Job Ruler and Manufacturing Stationer*

THIS company has been manufacturing paper-ruling machinery for over eighty-five years and now offers the paper-ruling trade a greatly improved Dual "L" Ruling Machine.

This latest Hickok Dual "L" machine is so quickly made ready and the time necessary so short for changing from one job to another that it is now widely used as a job machine. A great number of job-ruling shops are now equipped with the Hickok Dual "L" machines only.

A paper ruler who can operate a single machine, can just as easily operate an "L" ruling machine. The device for taking the paper from the first to the second machine is constructed on the rotary suction wheel principle and is so timed that the sheet of paper is drawn positively, without hesitation, and in perfect alignment into the second machine. The changes necessary from one job to another take little time as all mechanisms are provided with suitable means to make the change quickly.

The number of sheets of paper that can be ruled per hour on this machine is just as great as on a single machine, but being an "L" the output is doubled as the paper is ruled in both directions on one side of the sheet at one feeding. The elimination of one handling of the paper is a great saving in time as well as loss from destroyed and soiled sheets of paper.

Any job-ruling shop or manufacturing stationer who is not equipped with the latest Hickok Dual "L" Ruling Machine will find that he cannot compete with those firms so equipped.



Dual "L" Ruling Machine, with Hickok Standard Automatic Pile Feeder attached.

By addition of a new style cloth arrangement, the paper is held firmly against the cloth by the cords throughout the entire travel of the paper except at the turning device at the corner. This prevents curling of the paper which in the past has been such an annoyance to the operator.

Power.—This machine is equipped with 2½-H.P. motors, together with three push button control stations, so that it can be started or stopped from three different positions.

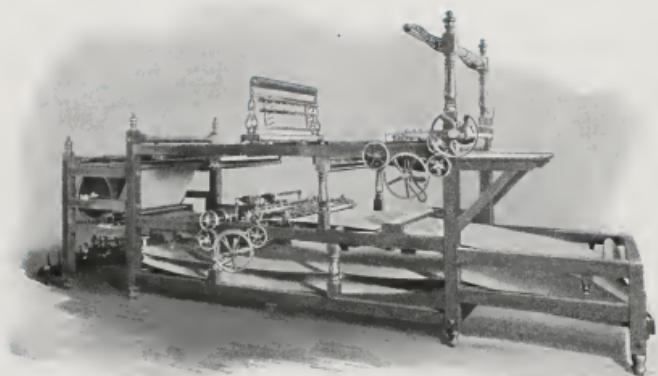
Floor Space.—A blue-print will be sent on request showing the floor space for machines of different widths.

How to Order.—Always give width of the cloth desired as the width of the cloth governs the width of the paper that can be ruled. If the maximum width of paper to be ruled is 36 inches, a machine with a cloth 38 inches wide should be ordered as there is always shrinkage in the width after it is used. State the number of beams wanted on each half, also the number of underlift bars. First half can be equipped with three striker-beams and each striker-beam with our latest, greatly improved underlift bar. This equipment will allow the machine to make six independent lifts and six independent drops of the pens.

In ordering, always give the style of machines wanted and send sample of work that is to be ruled; the width of cloth wanted. Give electric current, voltage, D.C. or A.C. and if A.C., the number of phase and cycles, in addition to the voltage.

By the addition of the Hickok Automatic Feeder, now looked upon by the trade as the standard attachment to ruling machinery, the output is about doubled as the paper is fed evenly and accurately and at a higher rate of speed.

Prices on page 35.



Style C Ruling Machine, with Single O-A Striker-Beam above and below, with No. 3 Lay-Boy.

Hickok Double-Deck Ruling Machines

THESE machines are thoroughly equipped and up-to-date in all respects and will do perfect work rapidly.

Style C.—This machine is equipped with O-A automatic striker above and below, and will strike down lines on both sides of the sheet in one direction at one feeding, or will feint-line both sides of the sheet in one direction at one feeding.

Style C $\frac{1}{2}$.—This machine is equipped with O-A automatic striker above, and with feint-line beam below, and at one feeding will strike down lines on one side of a sheet and feint-line the other side in one direction, or will feint-line both sides of the sheet in one direction at one feeding.

Style D.—This machine is equipped with feint-line beam above and below, and will feint-line both sides of the sheet in one direction at one feeding. Great speed has been obtained from these machines by our customers. For high efficiency this machine should be equipped with automatic feeder.

Floor-space, 18 feet by 5 $\frac{1}{2}$ feet for 38-inch machines.

Weight, boxed, about 3,100 pounds.

Prices on page 35.



Quadruple "L" Ruling Machine, composed of one Style C Double-Deck Ruling Machine, with double strikers above and below, "L" attachments, and one Style D, with two faint-line beams above and below, with lay-boy.

Hickok Quadruple "L" Ruling Machine

For Ruling Paper Two Ways on Both Sides at One Feeding

THIS machine is of the same general design as the Dual "L," but is composed of two double-deck machines instead of two single machines, and instead of ruling down and cross lines on one side of the sheet, will rule down and cross lines on both sides of the sheet at one feeding.

In the hands of a skilled and competent operator this machine will turn out perfect work, and a large number of these machines are in daily use, both in this country and abroad.

This machine is mostly used for ruling stock patterns or where the runs are sufficiently large to warrant the setting up of the pens in the different beams.

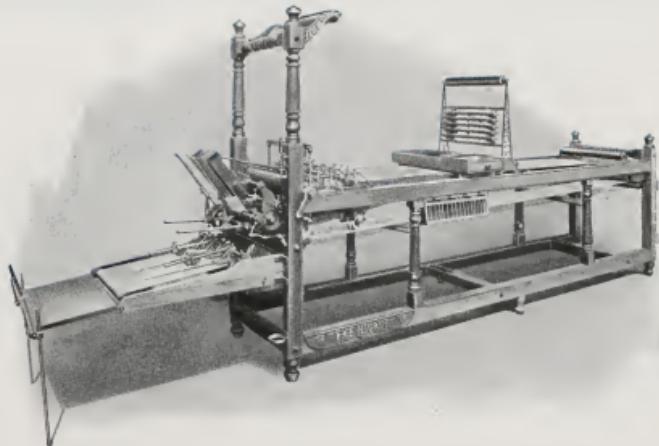
Two or three striker or feint-line beams can be used, as can also the manifold underlifts, if the work is of such a complicated pattern as to warrant their use.

For maximum production this machine must be equipped with automatic feeder.

We recommend this machine highly for long runs.

Weight, boxed, about 7,700 pounds.

Prices on page 35.



Card-Ruling Machine, with single-beam striker, and Hickok single-bar pen-underlift
with special card lay-boy and double automatic card feeder.

Index Card-Ruling Machine and Feeder

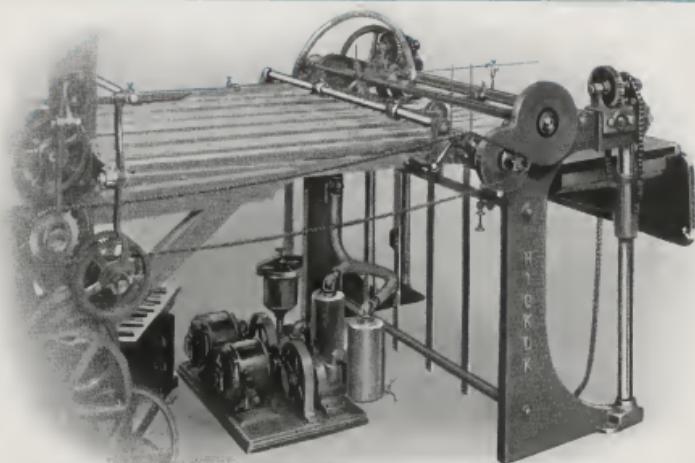
THIS machine is of simple construction and any paper-ruler, who has had experience on paper-ruling machines and knows how to set pens, adjust flannels and worsteds, and handle inks, should have no difficulty in operating it at once, with very little thought or study.

The handling of two cards at a time up to 8 by 8 inches is a distinct advantage as the output of small cards is doubled thereby. Above 8 by 8-inch cards and up to 16 by 16-inch cards, only one card can be fed at a time. This feeder is also made to handle one card at a time. Having the lay-boy at the ruler's end of the machine and elevated to a convenient height, enables the one operator to handle by himself, economically, the whole machine, even though it runs at a high rate of speed. Almost without moving he can watch his pens and ink them, place the cards in the hoppers of the feeder, and also remove them when ruled from the lay-boy. The feint-lining and striking or stop ruling is perfect when the machine is properly set and adjusted. The output is enormous when in the hands of an ambitious operator.

A forward or extra gate can be added if desired. This second gate is operated by an extra cam head. The advantage of this device is to allow the striking pens to drop on the card when it is stationary, being held by the second gate, thus insuring more perfect striking at greater speed.

We know of no more efficient machine and think that practically all rulers will agree, either as to quality or quantity of production.

For prices see page 36.



Hickok Pile Job Feeder S-F, attached to Hickok O-A Ruling Machine.

Hickok Automatic Pile Paper Feeders

Will Pay 100% Dividends

THIS Company, which has been manufacturing paper-ruling machinery for over eighty-nine years, wishes to bring to the attention of the bookbinding and paper-ruling trade its Automatic Paper Feeders.

For twenty years we have been manufacturing the Hickok Pile Feeder, which is now looked upon the world over as the standard feeder for paper-ruling machinery.

We have also supplied a great number of the pile feeders to users of the Cleveland and other folding machines, which are giving entire satisfaction.

These feeders primarily were designed to fill a long-felt want as JOB FEEDERS for paper-ruling machinery, but they are just as well adapted for long runs, for any class of paper-working machinery that requires sheets of paper to be fed rapidly, with an even spacing and at given regular periods.

Simplicity.—The Hickok Automatic Paper Feeders are so constructed that all adjustments can be made by hand without screw-driver or wrench. The operator can instantly stop and start the same from his position at the side of the ruling machine. All motions are rotary, thereby saving wear. There are no push fingers, but the paper is fed into the ruling machine by air-suction, being drawn from the pile of paper by a revolving cylinder. The pile of paper is always automatically kept at the proper height and a blast of air separates the top sheets. The feeders can be changed for different sizes of paper in a few minutes, and from feint-line feeding to down-line in three minutes or less.

Advantages.—The Hickok Automatic Paper Feeders will feed onion-skin paper, highly calendered paper, or cardboard equally well. They will always feed to the last sheet of paper and not the last six or seven sheets together, as is the case in some other feeders. On feint-line work the spacing can be accurately regulated so that the sheets go into the ruling machine as close as $\frac{1}{4}$ of an inch apart. This keeps the cloth dry. This spacing does not vary, which is the case when sheets are fed by hand. Feeds large and small sheets equally well. In down-line or struck ruling, the paper is fed absolutely accurately to the gate. The register is perfect. The feeder is fully guaranteed in every particular.

Floor Space.—When this type of feeder is attached to a ruling machine, the floor-space is the width of the ruling machine and extends 7 feet 6 inches from the upright posts of the ruling machine; when attached to a Cleveland or Dexter Folding Machine, the floor-space is the width of the folding machine and extends 66 inches from the folding machine.

How to Order.—In ordering a feeder to be attached to a Hickok Ruling Machine, give the serial number of the machine, which is found stamped on the name-plate; if not a Hickok machine, give the name of the machine and the distance measured between the rails. If attached to a folding machine, give the maker's name, serial number, model, and the data of the electric current used. Give voltage if the current is direct; if alternating, the voltage, phase and cycles. The guide will always be placed on the right-hand side (operator's side).

Adaptability.—Our feeders have been attached successfully to all makes of pen and disc ruling machines of American, English, and German manufacture.

The above machines are fully protected by United States and foreign patents.

Prices for Feeders F or S-F, for O-A Ruling Machines

Pile Feeder When Attached to a Ruling Machine

When Attached to Ruling Machine	38 inches between rails 32-inch cloth	42 or 44 inches between rails 38-inch cloth	48 inches between rails 42-inch cloth	54 inches between rails 48-inch cloth
Styles 1, 3, 5, 7, 9, 11, Dual "L" or Disc Sheet.....	\$1170 00	\$1260 00	\$1305 00	\$1350 00
Double-Deck Style D, C $\frac{1}{2}$, C or Quad. "L".....	1260 00	1350 00	1395 00	1440 00

Motor and blower included in above prices. F. o. b., Harrisburg, Pa.

Will weigh, boxed, approximately 1,750 pounds.

These prices are f. o. b. cars, Harrisburg, Pa., U. S. A., and include the services of our erector and demonstrator east of the Mississippi River, U. S. A.

We will be pleased to quote prices for Hickok Pile Feeders to be attached to Cleveland Folding Machines, Menges Folding Machines and other small folders, perforating machines, printing presses and any special machinery.

The Hickok S-R All-Metal Ruling Machine

Complete with Automatic Feeder, Lay-Boy and Sheet Dryer.
Equipped with four Striker-Beams.

No. 1. Maximum size sheet, 28 inches long by 24 inches wide	\$2750 00
No. 2. Maximum size sheet, 30 inches long by 28 inches wide	\$3250 00
Prices f. o. b., Harrisburg, Pa., and include necessary motors, either 110 or 220 volts. Prices also include the services of our erector and demonstrator in the U. S. A., east of the Mississippi River.	
Machine will weigh, boxed, about 3,500 pounds.	

The Hickok A-O Automatic Striker Ruling Machines

Prices of all Automatic Striker Ruling Machines include Speed Reducing Mechanism, complete with motor, 110 or 220 volts, direct or alternating current, with starter and push-button control. A Variable Speed Mechanism can be furnished instead of the Speed Reducing Mechanism at an additional cost.

Please specify whether guide-board is to be placed on ruler's side or side opposite the ruler.

	38 inches between rails 32-inch cloth	44 inches between rails 38-inch cloth	48 inches between rails 42-inch cloth	54 inches between rails 48-inch cloth
Style 1. O-A Automatic. Single-beam stricker. With No. 3 lay-boy	\$1000 00	\$1130 00	\$1175 00	\$1240 00
Style 3. O-A Automatic. Two-beam stricker. With No. 3 lay-boy	1175 00	1300 00	1345 00	1415 00
Style 5. O-A Automatic. Three-beam stricker. With No. 3 lay-boy	1345 00	1465 00	1510 00	1580 00
Style 7. O-A Automatic. Single stricker with manifold pen-underlifts. With No. 3 lay-boy	1175 00	1300 00	1345 00	1415 00
Style 9. O-A Automatic. Two-beam stricker with manifold pen-underlifts. With No. 3 lay-boy	1345 00	1465 00	1510 00	1580 00
Style 11. O-A Automatic. Three-beam stricker with manifold pen-underlifts. With No. 3 lay-boy	1510 00	1640 00	1685 00	1750 00
1-A Hickok Feint-Line Ruling Machine. With one beam; without power attachments. With No. 3 lay-boy. For feint-line ruling or striking by hand	600 00	715 00	755 00	825 00

Prices f. o. b., Harrisburg. Will weigh, boxed, about 2,300 pounds. If Metal Loose-Leaf Beams are desired, add \$50.00 for each beam to the above prices.

The Hickok Double-Deck and "L" Ruling Machine

Prices below include Variable Speed Mechanism, complete with motor 110 or 220 volts direct or alternating current.

Style	38 inches between rails 33-inch cloth	44 inches between rails 38-inch cloth	48 inches between rails 42-inch cloth	54 inches between rails 48-inch cloth
Style D. Double-Deck Ruling Machine. With one faint-line beam above and one faint-line beam below. With No. 3 lay-boy	\$1370 00	\$1595 00	\$1685 00	\$1820 00
Style C. Double-Deck Ruling Machine. With one O-A striker beam above and one O-A striker beam below. With No. 3 lay-boy	1890 00	2115 00	2205 00	2340 00
Style C½. Double-Deck Ruling Machine. With one O-A striker beam above and one faint-line beam below. With No. 3 lay-boy	1665 00	1890 00	1980 00	2115 00
Dual "L" Ruling Machine. Composed of one Style 1 O-A Automatic Striker Ruling Machine, "L" attachments, and one 1-A Faint-Line Ruling Machine. With No. 3 lay-boy	2940 00	3135 00	3270 00	3450 00
Dual "L" Ruling Machine. Composed of two Style 1 O-A Automatic Striker Ruling Machines, "L" attachments. With No. 3 lay-boy	3255 00	3450 00	3585 00	3765 00
Quadruple "L" Ruling Machine. Composed of one Style C Double-Deck Ruling Machine, "L" attachments, and one Style D Double-Deck Ruling Machine. With No. 3 lay-boy	4725 00	4905 00	5043 00	5223 00
Quadruple "L" Ruling Machine. Composed of two Style C Double-Deck Ruling Machines, "L" attachments. With No. 3 lay-boy	4825 00	5005 00	5143 00	5323 00

Prices on "L" or Double-Deck Ruling Machines include the services of our erector and demonstrator in the U. S. A., east of the Mississippi River.

Single machine, boxed, weight about 2,300 pounds. Floor space, 38-inch machine, 11 feet 6 inches by 6 feet 6 inches. 44-inch double-deck machine, boxed, weight about 3,400 pounds. Floor space, 38-inch machine, 18 feet by 6 feet 6 inches. All prices f. o. b., Harrisburg, Pa.

Automatic Index Card-Ruling Machine

Single-beam O-A striker with Hickok single bar pen-underlift, 26 inches between rails, 20-inch cloth width, and special card lay-boy with automatic card-feeder complete for feeding one card at a time	\$1500 00
With feeder to feed two cards at a time up to 8 x 8 inches and one card at a time from 8 x 8 inches to 16 x 16 inches	1750 00
Second or forward gate	250 00

Floor-space, 17 feet by 38 inches. Weight, boxed, 2,000 pounds.

Ruling Machine Cloths

These cloths are sewed ready to put on machine

Beverteen Upper Cloths, made to fit O-A and I-A Ruling Machines:		Beverteen Lower Cloths, made to fit O-A and I-A Ruling Machines:	
48 inches wide, extra quality	\$75 00	48 inches wide, extra quality	\$62 00
42 inches wide, extra quality	60 00	42 inches wide, extra quality	50 00
38 inches wide, extra quality	55 00	38 inches wide, extra quality	45 00
36 inches wide, extra quality	50 00	36 inches wide, extra quality	40 00
32 inches wide, extra quality	40 00	32 inches wide, extra quality	34 00
30 inches wide, extra quality	38 00	30 inches wide, extra quality	32 00

Patent and Improved Pen Clamps

With Springs, and Made of Best Seasoned Mahogany	7-screw bolts, 32 inches long	7-screw bolts, 37 inches long	8-screw bolts, 39 inches long	9-screw bolts, 43 inches long	11-screw bolts, 49 inches long
No. 1. Regular style clamps (no jaw-lining) for feint-lining	\$9 00	\$10 00	\$10 50	\$11 40	\$14 90
No. 11. With heavy rubber tongue to hold pens especially firm for striking	11 60	13 00	14 00	16 00	19 00
Patent Aluminum Pen Clamp	46 00	48 00	50 00	52 00	54 00

Heavy rubber clamp lining for No. 11 clamp, 75 cents per strip. Square head screw bolt and nut, 35 cents; bolt, 20 cents; nut, 15 cents.

Hickok Patent Strikers and Devices

Single O-A Automatic Striker, complete with O-A standards, ball-joint beam-box, O-A pen-rest, for 1-A Ruling Machines \$417 00
Duplex O-A Automatic Striker (Single O-A and Auxiliary Striker combined), complete with O-A and 1-A standards, ball-joint beam-boxes, and O-A pen-rests, for 1-A Ruling Machines 600 00

Auxiliary or Second-Beam O-A Automatic Striker and Attachments, complete with 1-A standards, ball-joint beam-box, O-A pen-rest, for O-A Ruling Machines 180 00
Manifold Double-Shaft Pen-Underlift Device to add to O-A Striker Ruling Machines 190 00

*To add to Ruling Machines already in use
These prices do not include the Ruling Machine*

Single O-A Automatic Striker, with Manifold Pen-Underlift attached for 1-A Ruling Machines \$600 00
Hickok Single-Bar Pen-Underlift, for O-A Ruling Machines, for 2nd or 3rd beam;
 38 inches between rails \$70 00
 44 inches between rails 80 00
 48 inches between rails 90 00
 54 inches between rails 100 00
 If attached to 1st beam, \$35.00 higher for each width.

IMPORTANT.—When ordering any parts or appliances for Ruling Machines you already have, give the width between side frames, the serial number of the machine, with other particulars, so as to avoid any error in sending the parts or attachments to suit.

Electric Power Device for Ruling Machines

*All prices f. o. b.
Harrisburg, Pa.*

Gear Speed Reducing Mechanism, complete with rawhide pinion, one-fourth horse-power motor, 110 or 220 volts, if attached to 1-A Feint-Line Ruling Machine	\$225 00
The above, if attached to O-A Striking Ruling Machine	150 00
Gear Speed Reducing Mechanism, with rawhide pinion for motor, but without motor, to be attached to 1-A Feint-Line Ruling Machine	200 00
The above, to be attached to O-A Striking Ruling Machine	125 00
Write for prices if electric power device with variable speed control is to be attached to a Double-Deck, Dual "L" or Quadruple "L" Ruling Machine.	

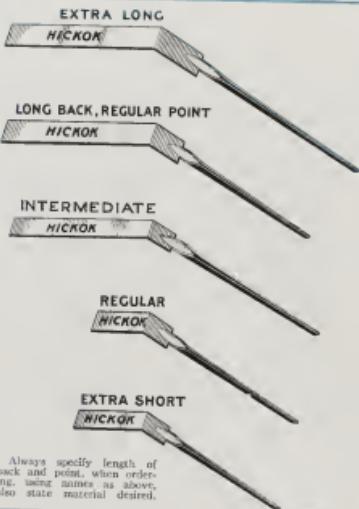
1-A and O-A Ruling Machine Parts

Bed-board , with fingers, boxes, etc., zinc-covered	\$40 00	
Beam , metal loose-leaf	175 00	
A liberal credit will be allowed for old beam and standards.		
Beam , 1-A feint-line complete, consisting of 1-A standards, pen-rest, beam-screw and ball-joint beam-box, wooden beam with extension pen-grippers on top, with brass ink cover-plate and hand-rest	100 00	
Beam , special feint-line complete, consisting of lever-lock standards, pen-rest, beam-screw, ball-joint, beam box, wooden beam, without extension pen-grippers or brass ink cover-plate	65 00	
Beam , mahogany, with extension pen-grippers, brass ink cover-plate and beam journal	25 00	
Beam , mahogany part only with angle iron	18 00	
Brushes , rubberset, rubberbound, ink No. 2, diameter or size $\frac{5}{8}$ inch, each	0 65	
Brushes , rubberset, rubberbound, ink No. 3, diameter or size $\frac{5}{8}$ inch, each	0 75	
Brushes , rubberset, rubberbound, ink No. 4, diameter or size $\frac{5}{8}$ inch, each	0 90	
Brushes , rubberset, rubberbound, ink No. 5, diameter or size, 1 inch, each	1 10	
Also larger sizes.		
Cams for Striker , curved, flat metal pieces to set in 8-inch cam-head; full set	10 00	
Cams (split) for Landvoigt bar and striker combined for 8-inch cam-head; full set	10 00	
Cams for Manifold Pen-Underlift for 6-inch cam-head; set	11 00	
Cam-Head for O-A Striker, 8 inches in diameter, without cams	23 00	
Cam-Head Thumb-Screws , each	0 12	
Cam Plate , adjustable to fasten under toe of striker pen-rest for contact with cams, with screw	1 00	
Cloth Guide , entirely automatic, for upper cloth or for lower cloth, each	15 00	
Cord (hollow) for "L" Ruling Machine, per yard	0 02	
Cord (hollow), sewing needle	0 75	
Cord for stringing up Ruling Machine, overhead, size "F"; lower, size "FFF," per spool	5 50	
Cord , one box, containing eight spools, per box	0 75	
Counter , automatic, new style air Paper Counter if attached to Hickok Ruling Machine which is equipped with gear speed reducing mechanism	65 00	
Counter , automatic, new style air Paper Counter if attached to presses, paper-folders, etc., with $\frac{1}{4}$ -H.P. motor, 110 or 220 volts, direct or alternating current	75 00	
Crane Handle for mahogany string-cylinder, for turning machine by hand	10 00	
Cylinder (cloth), around which the upper cloth runs and by which it is driven with boxes	23 00	

I-A and O-A RULING MACHINE PARTS, *Continued*

Cylinder (mahogany, grooved), around which the over-head cords run, and by which they are driven with boxes.....	\$35 00	Pen-rest, with adjusting screws, for feint-line machines	10 00
Dryer, electric sheet.....	125 00	Preventive of Jar to beam, complete	7 75
Flannel, pure wool, 32 inches wide, per yard.....	4 50	Preventive of Jar to beam, spring and rivets only.....	0 25
Flannel, ten yards or over ordered at one time, per yard.....	4 00	Standards. (Patented.) Self-locking O-A angle standards, with right-angle worm and worm-gear gate adjustment, beam-screw, and ball-joint beam-box and O-A pen-rest, complete, per set.....	125 00
Flannel Holders.....	0 25	Standards. (Patented.) Self-locking I-A angle standards, with beam-screw and ball-joint beam-box and I-A pen-rest, complete, per set.....	85 00
Gate-bar Finger, which is operated by gate pull-down spring.....	1 75	Standards. (Patented.) Self-locking 1-A angle standards, with beam-screw and ball-joint beam-box and O-A pen-rest, complete for auxiliary striker, per set.....	90 00
Gate, Complete, with bar, blade, flip-up and spring arm.....	28 50	Standards. (Patented.) Lever-lock angle standards, tapered spindle-hole, beam-screw, ball-joint beam-box and I-A pen-rest, complete, per set.....	50 00
Gate Blade for ruling machines.....	6 00	Steam Fixtures, complete with shifter lever, single-cone pulley to attach to head of machine and cone for over-head.....	40 00
Gate Flip-up, complete, with trip-finger, new style.....	10 00	Steel Section with half-round edge, used under the gate with adjustable boxes.....	5 00
Gate Steel Trip-finger, for flip-up.....	0 75	Tape (3/4-inch) for Double-Deck and "L" Ruling Machines, per yard.....	0 05
Gate Spring, which raises gate.....	0 25	Tape (1 1/2-inch linen) for Double-Deck and "L" Machines, per yard.....	0 20
Gate Spring, which holds trip-finger in place.....	0 20	Wrenches, small or large, each.....	0 50
Gear Guard for cylinder gears.....	0 25	Zephyr, pure wool, white, per ball.....	0 15
Guide, Hickok-Simon loose-leaf guide (patented).	25 00	Zephyr, pure wool, white, per box of 12 balls.....	6 00
Ink-pan, size 6 by 3 by 1 1/4 inches.....	2 50		
Ink-box (hardwood).....	20 00		
Ink-jars (automatic), each.....	10 00		
Lay-boy No. 3, combined stock and job lay-boy, with paper-joggers for ruling machines.....	125 00		
Lay-boy Tapes, per set of four, sewed ready for machine.....	0 20		
Lay-boy Tape, per yard.....	0 20		
Lay-boy Round Belt, with couplings (leather).....	1 00		
Lay-boy Driving Chain, with sprockets.....	12 50		
Pen-rest, with adjusting screws, and adjustable cam-plate, for striker machines.....	15 00		

The W. O. Hickok Manufacturing Company, Harrisburg, Pa., U. S. A.



Always specify length of
back and point, when ordering,
using names as above,
also state material desired.

Hickok Paper Ruling Pens

WE have manufactured ruling pens for 89 years, and Hickok pens are now standard the world over. Hickok pens are accurately spaced, and can be furnished with any length of points or backs, with wide or narrow bowls, to rule fine lines, or for any special spacing.

Cut shows five of our most popular sizes.

We make four styles of back, namely:

1. Shaved 1-ply, which is made of a solid piece of brass with the point shaved thin. This is our most popular style and is sent on all orders if style is not specified.
 2. 2-ply back; the point is one thickness of brass and the back two. Most popular for feint-lining as they wear much longer than the stiffer shaved pen.
 3. 3-ply back; the point is one thickness of brass and the back three.
 4. Soldered 1-ply; the point is one thickness, made of thin material, and the back of one thickness, made of heavy material. The point is soldered to the back.
- We make our shaved pens of the following materials: Brass, Brass Silver-plated, German Silver, Gold Alloy, and Acid Proof (made in "intermediate" only) very tough and stiff; a splendid pen for down-line ruling. *Brass pens are sent if material is not specified.* We cannot supply 2- or 3-ply back plated.

Prices on pages 41, 42, and 43.

Price-List of Hickok Ruling Pens

Specialty spaced pens, in bars, made to order. Ten spaces to one inch for Elliott-Fisher Bookkeeping Machine.

Bars About 6½ Inches Long Four Bars to a Set			Bars About 4½ Inches Long Six Bars to a Set			Price Per Pen-Point			
Name Ohl System	Pen-Points in a Bar	Pen-Points in a Set	Name Point System	Pen-Points in a Bar	Pen-Points in a Set	2-Ply Back	3-Ply Back	Shaved 1-Ply	Soldered 1-Ply
						Cents	Cents	Cents	Cents
0000	75	300	..	46	276	3	3	3	3½
000	69	276	7	40	240	3	3	3	3½
00	62	248	8	36	216	3	3	3	3½
00½	54	216	9	36	216	3	3	3	3½
0	51	204	..	..	..	3	3	3	3½
0½	48	192	10	32	192	3	3	3	3½
0½	45	180	11	30	180	3	3	3	3½
0¾	42	168	..	..	..	3	3	3	3½
1	40	160	12	27	162	3	3	3	3½
1½	38	152	13	25	150	3	3	3	3½
1¾	36	144	..	..	..	3	3	3	3½
1½	35	140	14	23	138	3	3	3	3½
1¾	34	136	..	..	..	3	3	3	3½
2	32	128	15	22	132	3	3	3	3½
2½	31	124	..	..	..	3	3	3	3½
2¾	31	124	16	20	120	3	3	3	3½
2½	30	120	..	..	..	3	3	3	3½
2¾	28	112	17	19	114	3	3	3	3½
3	27	108	18	18	108	3	3	3	3½
3½	26	104	19	17	102	3	3	3	3½
3¾	25	100	..	..	..	3	3	3	3½

Price-List of Hickok Ruling Pens

Pens of special spacing made to order

Bars About 6½ Inches Long Four Bars to a Set			Bars About 4½ Inches Long Six Bars to a Set			Price Per Pen-Point			
Name Old System	Pen-Points in a Bar	Pen-Points in a Set	Name Point System	Pen-Points in a Bar	Pen-Points in a Set	2-Ply Back	3-Ply Back	Slanted 1-Ply	Soldered 1-Ply
						Cents	Cents	Cents	Cents
3½	25	100	20	16	96	3	3	3	3½
3¾	24	96	—	—	—	3	3	3	3½
4	23	92	21	16	96	3	3	3	3½
4¼	22	88	22	15	90	3	3	3	3¼
4½	22	88	23	14	84	3	3	3	3½
5	21	84	—	—	—	3	3	3	3½
5½	20	80	24	14	84	3	3	3	3½
6	20	80	25	13	78	3	3	3	3½
6¾	19	76	26	12	72	3	3	3	3½
6½	19	76	—	—	—	3	3	3	3½
6¾	18	72	27	12	72	3	3	3	3½
7	18	72	28	12	72	3	3	3	3½
7½	17	68	29	11	66	3	3	3	3½
7¾	17	68	30	11	66	3	3	3	3½
7¾	16	64	—	—	—	3	3	3	3½
7½	16	64	31	11	66	3	3	3	3½
7¾	15	60	32	10	60	3	3	3	3½
7¾	15	60	33	10	60	3	3	3	3½
7½	15	60	34	10	60	3	3	3	3½
8	14	56	35	9	54	3	3	3	3½
8½	14	56	36	9	54	3	3	3	3½

The W. O. Hickok Manufacturing Company, Harrisburg, Pa., U. S. A.

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Price-List of Hickok Ruling Pens

Wide-Line Ruling Pens to Order. All small packages will be sent by mail at customer's price, unless otherwise ordered. Special Pens made to order.

Style of Pen	Number of Points	Down-Line Pens			Price Per Pen-Point				
		Rules 1 line	Striking	2-Ply Back	3-Ply Back	Silvered 1-Ply	Soldered 1-Ply	Air Proof	
				Cents	Cents	Cents	Cents	Cents	Cents
Regular point with regular back or extra short	1	Rules 1 line	Striking	3	3	3	3½	5	
	2	Rules 2 lines	"	3	3	3	3½	5	
	3	Rules 3 lines	"	3	3	3	3½	5	
Regular point with long back or intermediate	1	Rules 1 line	Striking	3	3	3	3½	5	
	2	Rules 2 lines	"	3	3	3	3½	5	
	3	Rules 3 lines	"	3	3	3	3½	5	
Extra long, to fasten in clamp with other pens	1	Rules 1 line	Striking	3	3	3	3½	5	
	2	Rules 2 lines	"	3	3	3	3½	5	
	3	Rules 3 lines	"	3	3	3	3½	5	
Safety or Extra Close		Number of Pens to a Bar	Number of Pens to an Inch	For Ruling Checks, etc., for Safety Purposes					
Number 1		157	40	Feint-line					
Number 2		122	33	"					
Number 3		95	25	"					
Number 4		94	24	"					
Number 5		86	22	"					
Number 6		78	20	"					
Music Pens		Number of Pens on a Bar	Number of Pens to a Set	For Ruling Music Paper					
Number 1		5	80	Feint-line					
Number 2		5	80	"					
Number 3		5	80	"					
Number 4		5	80	"					

Wide-Line Flannel Ruling Pens to rule line $\frac{3}{4}$ inch wide and wider made to order.

Extension Pen-Holders

Single, $\frac{1}{2}$ -inch wide	\$0 30	Triple, $\frac{1}{2}$ -inch wide	\$1 10
Single, $\frac{3}{4}$ -inch wide	0 35	Triple, $\frac{3}{4}$ -inch wide	1 20
Single, 1-inch wide	0 45	Triple, 1-inch wide	1 30
Double, $\frac{1}{2}$ -inch wide	0 75	Pen-tweezers, per pair	0 50
Double, $\frac{3}{4}$ -inch wide	0 85	Pen-tweezers, per pair, with bodkin point	1 50
Double, 1-inch wide	0 90		

Pen Cabinets

For old-system pens, made of hardwood, with 7 drawers to hold several sets of each number	\$23 00
For point-system pens, made of hardwood, with 3 drawers to hold several sets of each number	12 00

Ruling Inks and Ink-Powders

Color	Ink-Powder Per Pound	Liquid Quart	Color	Ink-Powder Per Pound	Liquid Quart
Yellow	\$3 25	\$1 00	Imperial Blue	\$1 50	\$1 00
Orange	1 50	1 00	Yale Blue	3 00	1 00
Vermilion (Eosine)	4 50	1 00	Neptune Blue (Patent A)	4 50	1 00
Light Scarlet	3 25	1 00	Neptune Blue (Patent B)	3 50	1 00
Dark Scarlet	6 00	1 00	Victoria Green	3 50	1 00
Carmine	2 50	1 00	Emerald Green	5 10	1 00
Violet	3 25	1 00	Bismarck Brown	2 00	1 00
Purple	4 50	1 00	Seal Brown	2 00	1 00
Ultramarine Blue	6 35	1 00	Black (Bluish or Jet)	3 00	1 00

Prices on $\frac{1}{2}$ -pounds at half of pound rate, plus 50 cents. Extra charge for boxing ink in less than twelve-quart lots.

Ox-Gall

Patent concentrated for rulers and marblers. One-pound jar, \$1.75.

\$1 10
1 20
1 30
0 50
1 50

\$23 00
12 00

Liquid
Ounces
\$1 00
1 00
1 00
1 00
1 00
1 00
1 00
1 00
1 00

Hickok Disc Ruling Machines

WE bring to the attention of the tablet and loose-leaf manufacturers the complete line of Disc Ruling Machines we now offer. There are no disc ruling machines made today that will do as much or better work.

No. 1 Sheet Disc.—This machine is of simple construction, all parts in full view and very easy to set and adjust. Any paper-ruler who is familiar with mixing and handling inks will have no difficulty in successfully operating it. It will rule sheets of paper on both sides in one direction up to 38 inches wide. The machine can be supplied with or without an automatic sheet feeder, but we strongly recommend a Hickok automatic feeder as it is designed for this work and a great deal of the efficiency of the machine will be lost without one.

No. 2 Roll Disc.—This machine draws the paper from a web or roll up to 38 inches in diameter, cuts it into any desired length (from 20 inches to 38 inches long) and rules this sheet on both sides in one direction. The paper is guided after it is cut and insures a perfect register.

This machine consists of:—

Stand and mechanism for raising and holding the roll and decurling device.

Cutting-off machine for cutting sheets into the desired lengths and includes counting device.

Prices on pages 55 and 56.



No. 1. Sheet Disc Ruling Machine with Standard F Automatic Feeder Attached and Disc Lay-Boy.

Disc ruling machine which rules paper on both sides of sheet in one direction in one color.

Slot hole perforators and slitter or margin line ruling attachment can be added, if desired, at an additional price.

Lay-boy for receiving the ruled sheets and jogging them.

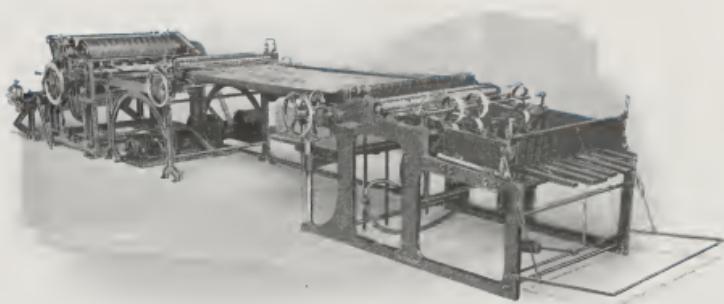
This style of machine is the most popular we manufacture on account of the high efficiency and economy of production. The speed is regulated by a 2-H.P. motor with variable speed control and is included in the price and has a range of speeds so that the machine can be operated with an output of from seven reams per hour to maximum production.

No. 3 Roll Disc.—This machine is the same as No. 2 with the exception that the paper is ruled before it is cut. The No. 2 machine cuts the sheet before ruling, and some of our customers prefer the No. 2 over the No. 3 for the reason that paper in rolls so often comes poorly wound and when drawn off it sways back and forth in going through the machine and shows poor registration when piled. However, this is a divided opinion; there is a place for our No. 3 Disc, also for our No. 2. Both have advantages. The motor equipment is the same as on the No. 2.

On the No. 2 or No. 3 Disc Machine, the long sheet counter is so constructed that a sheet is cut $\frac{1}{4}$ inch longer after a predetermined number of sheets have passed. Longer sheets can be cut every other sheet up to one in 250 sheets.

In addition, a high speed production counter is furnished.

For prices see pages 55 and 56.



No. 2. Disc Ruling Machine with Automatic Inserter and Lay-Boy.

Disc "L" Ruling Machine.—This machine will rule paper in both directions on both sides of the sheet at one operation. It is composed of our No. 2 Disc Machine and our No. 1, with L attachments or turning device.

The paper is drawn from the web or roll, cut into desired lengths, ruled on both sides and then goes to the L attachment. As soon as this point is reached a rotary suction head immediately draws the paper at right angles into the second machine. It is the positive action of this rotary suction head that makes possible the high speed or output that is obtained. It is then ruled on both sides, in the opposite direction than has been done by the first machine, and is received into the lay-boy. This machine is equipped with one 2-H.P. and one 1-H.P. motors, with variable speed control, 110 or 220 volts, with four push-button stations from which the operator can start or stop the machine at will.

A Hickok Automatic Sheet Feeder can be supplied in place of the Roll Cut-off Feeder at the same price.

Description of Equipment Supplied.—All our Disc Machines are equipped with acid proof *Ink Fountains*, which are automatic and keep the pens always supplied with the proper amount of ink.

These ink fountains which hold the ink and inking roller are so designed that a small lever on the operator's side will quickly place the fountain with inking roller into position against the discs and can be quickly withdrawn when occasion demands. An eccentric lever adjusts the pressure desired against the discs.



L Disc Ruling Machine with Paper Roll Holder, Cutting-Off Machine, No. 2 Disc Machine,
L Suction Corner Attachment, No. 1 Sheet Disc Machine,
Counter and Disc Lay-Boy.

Lay-Boy.—The lay-boy is of special design in order to properly receive and jog the sheets when fed at a high speed and will pile the paper in an even pile, jogging it on three sides. It has a gate on back that can be lifted by a foot lever, and the paper withdrawn without disturbing the oncoming sheets. Most tablet manufacturers make up the tablets as the paper is withdrawn from the lay-boy by piling the paper withdrawn on a table or truck and placing covers, etc., on each counted pile as it is withdrawn.

Disc Rolls.—A set of either adjustable or stationary discs are supplied as part of the equipment. A set of adjustable discs consists of 250 discs, and a set of stationary discs consists of enough discs and spacing rings to space discs 13-point system, or any other wide spacing. The face of discs is made so that line ten-thousandths of an inch in width (which is the regular width of a feint-line) is produced, but if desired, these discs can be supplied so that a line half the above thickness, or a heavier can be ruled.

Cut-Off Machine or Feeder.—On the No. 2, No. 3 or L, when machine is equipped with a roll cut-off feeder, paper can be cut into sheets from 20 inches to 38 inches long, and the regular equipment of cut-off change gears allows sheets of the following lengths to be cut: 22 inches, $22\frac{1}{2}$ inches, 24 inches, 28 inches, $30\frac{1}{2}$ inches, $32\frac{1}{2}$ inches, 34 inches and 36 inches. Any other gear for cutting off any lengths of sheets desired between 20 inches and 38 inches can be supplied at an extra price.

Counter.—A high speed production counter is furnished.

For prices see pages 55 and 56.

Hickok Automatic Combined Inserter and Lowerator

"Eliminates All Rehandling"

THE Hickok Combined Inserter and Lowerator places cardboard, blotters or sheets of paper between any predetermined number of ruled sheets and perfectly jogs and automatically lowers the pile of paper so that the pile can be hauled away on a truck without rehandling.

By this operation it is not necessary for the operator to remove continually the paper from the lay-boy as formerly and he can devote his entire attention to the operation of more than one Disc Ruling Machine.

The operation of inserting does not cut down the output of the Disc Ruling Machine.

The whole unit is positive and simple in operation. Cardboard or paper can be fed between every other sheet of paper or any greater number up to 500.

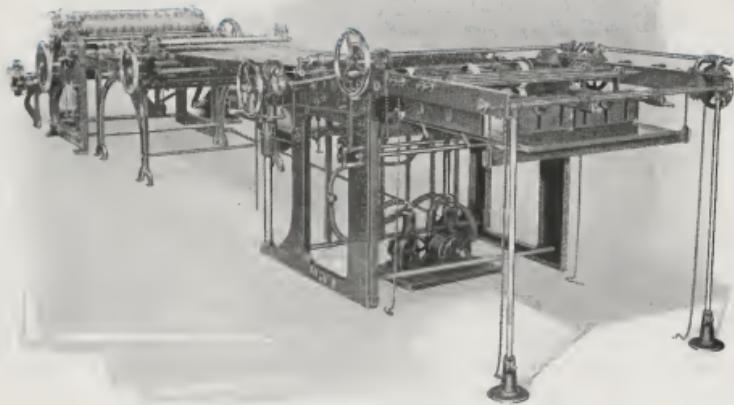
The inserter has a loading capacity of a 28-inch pile and the sheet delivery 30 inches.

This unit can be attached to any other machine requiring interleaving.

Prices on page 56.

The W. O. Hickok Manufacturing Company, Harrisburg, Pa., U. S. A.

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No. 2. Disc Ruling Machine with Automatic Inserter and Lowerator.

Hickok Automatic Pile Inserter and Disc Lay-Boy

For Cardboard or Paper

THE W. O. Hickok Manufacturing Company has placed on the market, to be used in connection with ruling machines and other machinery of a similar nature, an *Inserter* which automatically feeds cardboard of any thickness or the thinnest sheet of paper into the lay-boy or receiving box between any predetermined number of sheets of ruled paper. This operation does not cut down the output of the disc ruling machine.

The cardboard or paper is fed by a newly designed and patented automatic feeder, which inserts the board or paper just before it reaches the lay-boy. The feeder is positive and very simple in operation and quickly adjusted for cardboard or paper. There is no complicated mechanism to get out of order. It can be so adjusted that cardboard or paper can be fed between every other sheet of ruled paper or any greater number up to 500. This feeder holds a pile of cardboard or paper 28 inches high.

See page 48 for illustration.

For prices see page 56.

PRICES

NO. 1 SHEET DISC RULING MACHINE without feeder with lay-boy, to rule paper up to 38 inches wide.	\$1,600 00
With Hickok Automatic Sheet Feeder.....	2,750 00
The above prices include a 1-H.P. motor with variable speed control and automatic push-button starter, 110 or 220 volts, as required.	
Floor space, 21 ft. by 4 ft. 9 in., including feeder. Weight, boxed, 5,700 pounds, including feeder.	
NO. 2 OR NO. 3 ROLL DISC RULING MACHINE with lay-boy to rule paper up to 38 inches wide, with 2-H.P. motor with variable speed control and automatic push-button starter, 110 or 220 volts, as required.....	2,750 00
Same as above, but to rule 42 inches wide.....	3,000 00
These prices do not include Inserter. 38-inch machine weighs, boxed, 6,700 pounds.	
NO. 1, 2 OR 3 HICKOK DISC RULING MACHINE to rule paper up to 38 inches wide, complete with Inserter and Lay-Boy.....	4,000 00
NO. 1, 2 OR 3 DISC RULING MACHINE to rule paper up to 38 inches wide, complete with Combined Inserter and Lowerator.....	4,400 00
DISC L RULING MACHINE with lay-boy to rule paper up to 38 inches by 38 inches, with 1-H.P. and 2-H.P. motors with variable speed control and automatic push-button starter, 110 or 220 volts, as required.	5,000 00
As above, but to rule paper up to 42 inches wide.....	5,500 00
Hickok Automatic File Feeder will be supplied if so desired in place of the Roll Cut-Off Feeder at the same prices.	
The above prices include the services of erector and demonstrator east of the Mississippi River in the U. S. A. 38-inch machine weighs, boxed, approximately 11,500 pounds.	

PRICES FOR EXTRA ATTACHMENTS AND PARTS

Extra color attachment to rule single or double lines, with 12 single and 12 double discs	\$275 00
Perforators (four sets), with shafts	225 00
Perforators and color attachment combined	350 00
Perforators and slitter attachment combined	275 00
One pair stationary inking disc rollers with discs and spacing rings	150 00
Adjustable inking or impression discs, each	0 25
Adjustable double fine inking discs, each	0 35
Stationary discs, each	0 10
Stationary spacing rings, each	0 20
All prices f. o. b. cars, Harrisburg, Pa., U. S. A. The above machines are fully covered by patents.	
COMBINED INSERTER AND LAY-BOY if attached to a 38-inch Hickok Disc Ruling Machine that has already left our factory (for 42-inch machine, \$1,750.00)	1,550 00
The above if attached to a new 38-inch Hickok Disc Ruling Machine at our factory (42-inch machine, \$1,375.00)	1,250 00
We will be pleased to quote prices for attaching the Hickok Insertor and Lay-Boy to any other make of machine. Weighs, boxed, approximately 1,550 pounds.	
COMBINED INSERTER AND LOWERATOR if attached to a 38-inch Hickok Disc Ruling Machine that has already left our factory (for 42-inch machine, \$2,050.00)	1,850 00
The above if attached to a new 38-inch Hickok Disc Ruling Machine at our factory (for 42-inch machine, \$1,850.00)	1,650 00
Prices for attaching Hickok Combined Insertor and Lowerator to machines other than our manufacture, depends on the style and width of machine. We will be pleased to quote.	
AUTOMATIC LOWERATOR, if attached to Hickok Pen or Disc Ruling Machines	850 00
This price does not include setting up nor demonstrating.	
Will quote price for attaching to any type of paper-working machinery.	
LAY-BOY for 38-inch Disc Ruling Machines (all metal)	450 00
LAY-BOY for 42-inch Disc Ruling Machines (all metal)	495 00

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The W. O. Hickok Manufacturing Company, Harrisburg, Pa., U. S. A.

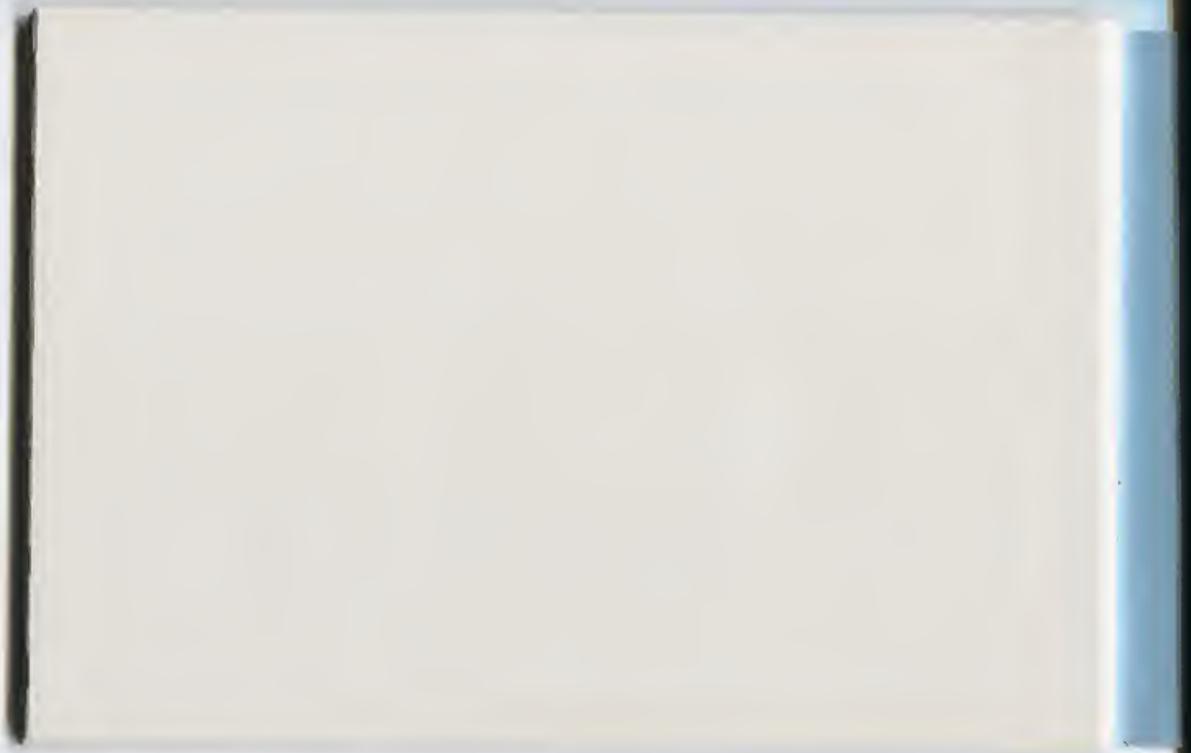


Factories of The W. O. Hickok Manufacturing Company











HICKOK